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not be swindled out of my natural rights! Liberty is the first of these—and I must have liberty, even in a wall."

"So you shall," said the man; "your liberty will be that of obtaining your just position in the wall, and of maintaining it undisturbedly."

"Bah! what stupid, sneaking notions you have of liberty, surely! I tell you again that I must have space to expand and expatiate in. Do you think that I can stoop to fill the office of a mere wedge?"

"You tire out my patience, friend," said the mason: "there is no use in arguing the matter further. I see I cannot get you to take up your lodging in the wall: I see I must throw you on the earth again."

"Very well; be it so," returned the Stone: "liberty before all things! Pitch me to a respectable distance from the other stones, that I may feel myself unshackled and independent. I have the same right to be a free-stone that you have to be a free-mason."

"There, then," said the mason, and with the words he cast the Stone from him into the middle of the highway.

The Stone was now in the full enjoyment of its darling liberty. Exceedingly did it congratulate itself. For a time also everything went well with it. The summer was a mild one; the skies were bright, and the foot of the passenger was continually transferring it to a new locality, and showing it daily more and more of the ways of the world. But, alas! the summer could not last for ever: autumn came, and brought with it clouds of dust and showers of yellow leaves; and when the wind-gusts had subsided, there fell on the earth heavy torrents of rain; and the highway was covered with mire, and the measure of the isolated stone was forthwith taken for a surtout of mud; and there it lay, fallen from its high estate, and completely confounded by the passing eye with the vilest of the rubbish in its vicinity.

But this was not the worst: in the course of a few weeks, the rains continuing still to fall, and the mire to accumulate, the earth gave way under it, and it became, as it were, imbedded in a hole produced by the force of its own pressure on the soft soil, till at last no part of it remained above ground except the upper surface. Unfortunately, too, there was no longer a possibility of retracing its steps, for the wall was now erected and the mason was far away. Nothing remained for it but to sink deeper and deeper into the earth, until not a vestige of it remained visible to the eye. Alas! for our poor Stone! Oh, Liberty! Oh, Independence! ye are indeed desirable objects of attainment; but surely they who seek ye at the expense of the great combining principle of social order, commit a senseless and irremediable blunder.

In the spring following, the mason was employed in building another wall. He hoped that his work would be suffered to proceed without interruption on this occasion at least, but he was speedily undeceived; for one of the stones, just as in the previous year, began to grumble, and protest against the treatment to which it was about to be subjected. The mason, recollecting the former scene, was on the point of flinging it away at once; but second thoughts suggested to him the eligibility of first trying the effect of a little reasoning and remonstrance, "for, after all," said he, aloud, "no two stones are alike, and though I have met with one that was proof against argument, another may be less intractable in my hands."

"There it is!" cried the Stone impatiently; "no two stones alike!—that's your foolish mistake, your ignorance. I tell you that there is no difference between one stone and another: I am just as good as any stone in the wall, and I insist on my prerogatives."

"Hoity-toity!" exclaimed the mason, "but you are a sturdy beggar! Will you be condescending enough to define your prerogatives? I will thank you to tell me briefly how you would have me dispose of you."

"I want to be a corner-stone, then," said the rebel, "and a corner-stone I will be. I stand on my rights: all stones are equal; so, quick!—let me occupy a position in the corner."

"That you cannot do, my friend," returned the mason: "don't you see that the corner-stones are already in their places?"

"I see that well enough," said the Stone; "but you can take one of them out, and install me in its place. I have as clear a right to be there as any of them: equality is the badge of us all: every one of us is from a common quarry: we are all stones alike. Take one of them out, and put me in."

"Now, see how grossly inconsistent you are!" urged the

workman: "all stones, you assert, are equal, and have the same rights: yet you would have me rudely displace and de-grade one of them for your pleasure, though, according to your own acknowledgment, you are not a bit better than he is! Upon my word, but you have enlightened conceptions of what constitutes equality. But I cannot stand here arguing the question with you all day; my time is precious; I beg you will decide whether you are satisfied to form part of the wall or not."

"Assuredly I am," said the other, "but only as a corner stone. How can you be so blind as not to see that we are all stones alike, and all therefore equal?"

"You are all stones alike," replied the mason, "and so far equal, in a certain sense; but your equality consists merely in your being all liable to serve as wall-stones, not in your being all qualified for the place of corner-stones."

"A truce with your slavish doctrines!" cried the malcontent; "either make of me a corner-stone, or build your wall without me."

"Is that your final decision?" asked the mason. "I warn you not to trifle with me, for I cannot let my work wait for you any longer."

"I have said it," said the Stone. "I would see your wall trampled into dust, and the whole universe along with it, before I would surrender my great principle. Do what you please."

"Go, then, refractory wronghead," exclaimed the mason, "go and enjoy your equality where none will be likely to dispute it!" And so saying, he cast the Stone from him with a vigorous jerk; and the Stone, after it had completed its journey through the air, fell down, and from the force of its own gravitation sank several feet low into the bottom of a deep and slimy pool.

This was, for all historical purposes, the termination of its existence. What became of it in the pool ultimately, it is impossible to conjecture, for half a century has elapsed since; but as a total extinguisher was put upon its aspirations after notoriety by the accident, it is highly probable that if not worn quite away by the friction of the surrounding mud and water, it was at least gnawed to the core, in a moral sense, by its regrets for the folly of its past misconduct—regrets which we may suppose to have been shared in a pretty equal degree by its twin-brother of the preceding year, which had stirkled so stoutly in its colloquy with the mason for its favourite theory of liberty and independence.

### THE AIR WE BREATHE.

THE objects which come every day before our eyes, the offices which involuntarily and almost unconsciously we at each moment must perform in order that we may live, are precisely the subjects concerning which the mass of mankind are least curious, and of the true nature and utility of which they are the most completely ignorant. It is thus with the air we breathe. There is no person but is aware of the necessity of breathing, and of the motion of the air caused by winds; but how few have asked themselves, What is air? How much is there of it? Could the same air be always used for breathing? How do fishes manage living in water in place of air? Yet the information thus obtainable might be the means of saving the lives of hundreds, as certainly the ignorance on these points has been the source of death, by painful and lingering torture, in many cases. We purpose, therefore, now to give some information about air, to show the importance of it to mankind, and to indicate how much we owe to the Omniscient Providence that has given to air the properties that we find it to possess.

Although "trifles light as air" has become a proverb, yet air is positively heavy. A hogshead of air weighs about ten ounces; this is heavier than the gas which is burned in the streets and shops, of which a hogshead would weigh only seven ounces; and very much heavier than hydrogen gas, with which balloons were formerly filled, a hogshead of hydrogen gas weighing only two-thirds of an ounce. A balloon filled with hydrogen, or even with coal gas, rises into the air, as oil or a cork rises up through water. The air being thus heavy, presses upon the earth; and by measuring the degree of pressure we can tell how much air there is. This is done by an instrument termed a barometer—a glass tube closed at one end, and which, having been filled with quicksilver, is turned upside down in a cup containing quicksilver also. The tube being shut at the top, the air does not press on the

quicksilver inside, but presses upon that in the basin; the quicksilver in the tube, which tends naturally to fall down into the basin, is thus forced to remain up in the tube by the pressure of external air; and it rises so high that the pressure inside, of the quicksilver, and outside, of the air, is equal. If the pressure of the air diminishes, the quicksilver falls; if the pressure of the air increases, the quicksilver rises: and as all great changes of the air are connected with changes of the weather, the barometer is generally known and consulted as a sort of weather-glass.

Every space of an inch square supports fifteen pounds weight of air; at the rate of ten ounces to a hogshead, the depth of the air would therefore be about five miles. But it is much deeper, for air is what is termed compressible—that is to say, it may by pressure be squeezed into a smaller bulk; and hence the air next the ground, being compressed by the portions above it, is much the heaviest portion. At three miles high a hogshead of air weighs only five ounces, and at eight miles high only two ounces; hence the limits of the air are much farther removed, and it is known to extend to at least forty miles.

The office of the air is to support animal life: no animal can live without air: even fishes require air. The water in which they swim contains air mixed with it, and this water washing the gills, which are their lungs, serves to them as the air directly acts on us. If we boil water until the air is expelled from it, and let it cool in a close vessel, we may drown a fish by putting it into such water, as easily as a land animal; it could not breathe. It is thus that in the lakes on the tops of very high mountains there are no fish. The heights are deserted by land and by water animals, in consequence of the air being too thin to support life. The way in which the air acts upon the body is very interesting. The most abundant element of our food is what the chemists term carbon, of which, in a gross manner, charcoal may serve as an example. Now, we eat much more of this than we require for the supply of our bodies, and it must be got rid of. This is done by its uniting in the body with a substance termed oxygen, and forming carbonic acid, the sort of air which boils up in soda water and ginger beer. This dissolves in the blood, colouring it a deep purple, and escapes from it when by the action of the heart the black blood is exposed to the action of the air on the surface of the lungs. Now, the office of the air is to supply this oxygen which removes the carbon from the blood. But the air is not pure oxygen. If it were, it would act too violently. An animal which breathes pure oxygen, becomes flushed, pants violently, and, if not choked, dies of inflammation of the lungs, produced by the intense action. In the air we breathe, the oxygen gas is diluted to the proper degree by another gas, termed nitrogen, which is totally destitute of power; it does of itself no good and no harm; it is the only substance that could be mixed in the air we breathe, without interfering in any way. When thus the blood loses, by exposure to the air in the lungs, its carbonic acid, it takes oxygen in its place; from dark purple it becomes bright red, and is then proper to take up a fresh quantity of carbon, and to sustain the body in health by its removal.

When any thing burns in the air, it is the oxygen which is active. The nitrogen dilutes here also the oxygen, and keeps its activity down to the degree most suitable to our wants. If the air were pure oxygen, all our domestic fires would be violent conflagrations; our iron pokers and tongs, if heated red hot, would take fire and burn like squibs; no comfort, no safety for society could exist. But in burning, this oxygen is destroyed. If a candle be placed lighted under a glass bell, it will, after a little, go out. The air will become unfit to support combustion. Here also, as well as in the burning of coals, coke, gas, oil, charcoal, &c. the oxygen is changed into carbonic acid, and precisely as a fresh supply of oxygen is necessary for the continuance of life, so is it for combustion.

The air contains about one part in five of oxygen, and, as has been seen, this oxygen is liable to continual destruction by the breathing of animals and the burning of fuel and of lights. An ordinary man spoils in twenty-four hours 720 cubic feet of air, that is, a mass of air 11 feet 6 inches square and 6 feet thick. The burning of three ounces of charcoal, or of a mould candle of six to the pound, produces the same effect. It is not unusual in a factory to burn ten tons of coal a-day, which spoils 3,185,760 cubic feet of air, a mass of a quarter of a mile square and six feet thick. If we multiply these numbers by the number of inhabitants, of man and of

all other animals upon the earth, and also by the quantity of fuel burned all over the globe, it will be evident that without some regulating power superior to all that mere human means could devise, the air might ultimately become unfit to be the sustenance of living beings, and all the numerous tribes of animated nature which now adorn its surface, would be destroyed.

By the all-wise arrangement of Providence, however, the animals, in thus converting the oxygen of the air into carbonic acid, become the means of supplying nourishment to another class of beings equally interesting and numerous. All vegetables breathe; but as animals take in too much carbon with their solid food, so do plants obtain too little from the substances that give nourishment to their roots. The animal breathes to give off carbon, the vegetable breathes to take it up. The two great divisions of living nature thus act in contrary ways upon the air; the oxygen consumed by the animal or by combustion, is given out again by the carbon of the carbonic acid becoming fixed in the plant of which it forms the woody mass; and thus the composition of the air is kept balanced at its proper point, and provision for the due nutrition of animals and vegetables is secured.

The air we breathe serves, however, for other important uses. Without the air, the fresh breezes which moderate the heats of summer could not exist, and there would prevail in nature an eternal silence, for it is by means of air that we not only breathe, but hear. The variety of aspect given to the sky by the formation and rapid change of clouds, arises from the mixture of warm and of cold damp air. If there was no air, there might be dew, but there could never be a cloud.

Without the air we could not have the bright blue sky which gives to our fine season its greatest charm. The heavens would be a vault of intense black, in which the sun would appear alone a glaring ball of fire, whose rays, unmitigated by the air which now absorbs them in their passage through its mass, would be a continual source of ill. The blue sky, the bright white clouds, arise from the sun's rays being partly stopped, and turned from one object to another. The sun's rays really consist of light of all the colours of the rainbow; of these the red portion is lost in passing through the air, and the blue remains, giving the colour we observe. Without the air, a place shaded from the sun would be in absolute darkness; as it now exists, a quantity of light is scattered about in every way by the different portions of the air, and thus an agreeable shade provided in place of the total absence of all light. On very elevated tops of mountains, where the traveller is placed above the greater portion of the air, all these effects of its absence which we have noticed, are found to exist. On the summit of Mont Blanc, a pistol discharged is scarcely heard, and a companion once out of sight, may be lost; for neither can he produce any noise by his own exertions, nor could his voice reach his friends, even if he could speak; the sky is deep indigo-coloured, or nearly black; and those objects on which the sun's light does not directly fall, are seen with difficulty.

Such are the uses of the common air we breathe. Such are the benefits we derive from a blessing, of whose existence when at rest we are almost unconscious.

**ABSENCE OF MIND.**—A well-known gentleman of Magdalen College, Cambridge, had taken his watch from his pocket, to mark the time he intended to boil an egg for his breakfast, when a friend entering the room, found him absorbed in some abstruse calculation, with the egg in his hand, upon which he was intently looking, and the watch supplying its place in the saucepan of boiling water.

**EARLY RISING.**—Six or seven hours' sleep is certainly sufficient, and no one ought to exceed eight. To make sleep refreshing, the following things are requisite:—To take sufficient exercise in the open air; to avoid strong tea or coffee; to eat a light supper; and to lie down with a mind as cheerful and serene as possible. We hardly ever knew an early riser who did not enjoy a good state of health. It consists with observation, that all very old men have been early risers. This is the only circumstance attending longevity, to which we never knew an exception.